Workflow Organization and realtime collaboration (Worc) project proposal

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Contents

[Introduction 1](#_Toc115095199)

[Problem Definition 2](#_Toc115095200)

[Problem Solution 2](#_Toc115095201)

[Motivation 3](#_Toc115095202)

[Conclusion 3](#_Toc115095203)

[References 4](#_Toc115095204)

# Introduction

**Definitions**

Customer Relationship Management (CRM) Software: A way for a business to compile and organize its interactions with its clients from a range of different sources such as a company’s address, website, telephone, email, chat, and social media.

Manufacturing businesses need a way for the sales team, engineering group, and procurement/manufacturing team to effectively track projects from initial client contact/sales engagement through to equipment delivery/installation. Our proposal is to build a web application that can help companies develop a workflow that facilitates effective communication between groups, provide notifications, and track various project metrics from the initial equipment sale to final delivery.

# Problem Definition

In some organizations the sales, engineering, and procurement/manufacturing groups use different tools to keep track of their aspects of the projects, and it often requires team members to keep project information in different locations and/or formats. This essentially keeps the information stored by these tools in separate silos where another method is required such as sending emails or having meetings is required to share the information. This can cause changes/updates to the projects to not be effectively communicated to the rest of the team or in some cases even to the client.

There are products on the market currently that are specifically designed to cater to the needs of each of the above groups. Examples of products are:

* Sales teams have access to CRM software like ACT! that keeps a client database with prospective sales, current proposals, and closing sales.
* An Engineering team could use a web-based product like Asana to manage engineering tasks among the team.
* A procurement/manufacturing group could use MS Project to schedule and track the progress of the manufacturing.

Each of these products only shows a small piece of the project to each team and it can be difficult for all team members to work collectively on projects without a lot of extra communications. In the post covid world where most companies are utilizing some type of hybrid working environment, ensuring full project sight lines and seamless communication between teams is very important.

# Problem Solution

Our project will build on the solution of a client database by including the engineering, procurement, and construction workflows into it. This will allow for each member of their respective teams to have a better understanding of how each sale is evolving all the way from initial client contact through to final delivery. Benefits that could arise from this would be earlier participation from engineering in the sales process, earlier client notification to production changes from parts delivery or construction slippages.

Our solution will produce a database that will store:

* Pertinent Client Information
* Clients’ interactions with the organization.
* Progress of current sales (i.e., Initial discussions, Proposal supplied, Engineering Involvement)
* Contract and it’s Milestones
* Project creation from the contract issuance.
* Project submittals
* Project change orders
* Procurement Milestones
* Manufacturing Milestones
* Ship/Delivery Date

In addition to the database our solution will have a web application that allows users to view each sale/project, as well as interact with the database as per the permissions assigned to them (i.e., someone in procurement shouldn’t be able to change the details of a sales contract).

# Motivation

The central motivation behind our proposed project is the unifying of many workflows within a company into a central hub where anyone in the company can get the information they need quickly, without having to rely on cross-department communications to get essential information about an ongoing project. As mentioned above, the post-Covid-19 era has many companies switched to a hybrid model for their employees. This has resulted in the email inboxes of many employees being overwhelmed with communications, with many of those communications being simple requests of information about an ongoing project. Our application should drastically reduce those types of communications, ensuring communications between employees can be about important topics larger than just information requests.

Having all information in one application will also increase efficiency, as instead of waiting for a co-working to respond to your email inquiring about information on a project, you can simply use our proposed application to get the information you need right away and continue with your workflow without delay.

The unifying of every department workflow under one roof is what makes our project unique. Many existing applications are too specialized towards one type of workflow that it makes it difficult for every department to utilize the software. Existing software can also struggle to get in-depth information from another department about a project, whereas our application will make such information gathering easy for the user.

# Conclusion

In an organization, it can be difficult to have every department on the same page for a project. Departments often use different tools/software to store essential information about a project, leaving a disconnect between employees across departments who often require information from one another. Our solution is to build an application that can unify all departments under one roof, reducing the number of emails to respond to and meetings to attend, and increase the efficiency of every department.

Below is an estimated timeline for this project’s deliverables:

* October 11th, 2022: Submission of a detailed Entity Relationship Diagram (ERD) and all related assumptions about the system.
* October 21st, 2022: Submission of the initial Relational Model of our system generated from the ERD.
* November 10th, 2022: Submission of the initial draft design of the functional portion of this project, including a UML diagram, Sequence Diagrams, and SQL Statements.
* December 2nd, 2022: Completion of functional application.
* December 7th, 2022: Submission of a Final Report about our project.

# References

CRM Software: ACT! <https://www.act.com/>

Team Management Software: Asana <https://asana.com/?noredirect>

Project Scheduling Software: MS Project <https://www.microsoft.com/en-ca/microsoft-365/project/project-management-software>